

SEQUENCE LISTING

<110> De Tomassi, Amedeo
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Paonessa, Giacomo
Tranboni, Cinzia

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 <213> Artificial Sequence

<220>
 <223> GBV-B Replicon

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 Ala Arg Leu Gly Lys Lys Pro Cys Gly Val Leu Trp Arg Leu Asp Gly
 1525 1530 1535
 Ala Asp Ala Cys Pro Gly Pro Glu Pro Ser Glu Val Thr Arg Tyr Gln
 1540 1545 1550
 Met Cys Phe Thr Glu Val Asn Thr Ser Gly Thr Ala Ala Leu Ala Val
 1555 1560 1565
 Gly Val Gly Val Ala Met Ala Tyr Leu Ala Ile Asp Thr Phe Gly Ala
 1570 1575 1580
 Thr Cys Val Arg Arg Cys Trp Ser Ile Thr Ser Val Pro Thr Gly Ala
 1585 1590 1595 1600

Thr Pro Trp Thr Thr Ser Ala Cys Cys Tyr Gly Pro Asp Gly Lys Gly
 2035 2040 2045
 Lys Thr Val Lys Leu Pro Phe Arg Val Asp Gly His Thr Pro Gly Val
 2050 2055 2060
 Arg Met Gln Leu Asn Leu Arg Asp Ala Leu Glu Thr Asn Asp Cys Asn
 2065 2070 2075 2080
 Ser Thr Asn Asn Thr Pro Ser Asp Glu Ala Val Ser Ala Leu Val
 2085 2090 2095
 Phe Lys Gln Glu Leu Arg Arg Thr Asn Gln Leu Leu Glu Ala Ile Ser
 2100 2105 2110
 Ala Gly Val Asp Thr Thr Lys Leu Pro Ala Pro Ser Ile Glu Glu Val
 2115 2120 2125
 Val Val Arg Lys Arg Gln Phe Arg Ala Arg Thr Gly Ser Leu Thr Leu
 2130 2135 2140
 Pro Pro Pro Pro Arg Ser Val Pro Gly Val Ser Cys Pro Glu Ser Leu
 2145 2150 2155 2160
 Gln Arg Ser Asp Pro Leu Glu Gly Pro Ser Asn Leu Pro Pro Ser Pro
 2165 2170 2175
 Pro Val Leu Gln Leu Ala Met Pro Met Pro Leu Leu Gly Ala Gly Glu
 2180 2185 2190
 Cys Asn Pro Phe Thr Ala Ile Gly Cys Ala Met Thr Glu Thr Gly Gly
 2195 2200 2205
 Gly Pro Asp Asp Leu Pro Ser Tyr Pro Pro Lys Lys Glu Val Ser Glu
 2210 2215 2220
 Trp Ser Asp Glu Ser Trp Ser Thr Ala Thr Thr Ala Ser Ser Tyr Val
 2225 2230 2235 2240
 Thr Gly Pro Pro Tyr Pro Lys Ile Arg Gly Lys Asp Ser Thr Gln Ser
 2245 2250 2255
 Ala Pro Ala Lys Arg Pro Thr Lys Lys Lys Leu Gly Lys Ser Glu Phe
 2260 2265 2270
 Ser Cys Ser Met Ser Tyr Thr Trp Thr Asp Val Ile Ser Phe Lys Thr
 2275 2280 2285
 Ala Ser Lys Val Leu Ser Ala Thr Arg Ala Ile Thr Ser Gly Phe Leu
 2290 2295 2300
 Lys Gln Arg Ser Leu Val Tyr Val Thr Glu Pro Arg Asp Ala Glu Leu
 2305 2310 2315 2320
 Arg Lys Gln Lys Val Thr Ile Asn Arg Gln Pro Leu Phe Pro Pro Ser
 2325 2330 2335
 Tyr His Lys Gln Val Arg Leu Ala Lys Glu Lys Ala Ser Lys Val Val
 2340 2345 2350
 Gly Val Met Trp Asp Tyr Asp Glu Val Ala Ala His Thr Pro Ser Lys
 2355 2360 2365
 Ser Ala Lys Ser His Ile Thr Gly Leu Arg Gly Thr Asp Val Arg Ser
 2370 2375 2380
 Gly Ala Ala Arg Lys Ala Val Leu Asp Leu Gln Lys Cys Val Glu Ala
 2385 2390 2395 2400
 Gly Glu Ile Pro Ser His Tyr Arg Gln Thr Val Ile Val Pro Lys Glu
 2405 2410 2415
 Glu Val Phe Val Lys Thr Pro Gln Lys Pro Thr Lys Lys Pro Pro Arg
 2420 2425 2430
 Leu Ile Ser Tyr Pro His Leu Glu Met Arg Cys Val Glu Lys Met Tyr
 2435 2440 2445
 Tyr Gly Gln Val Ala Pro Asp Val Val Lys Ala Val Met Gly Asp Ala
 2450 2455 2460

Tyr Gly Phe Val Asp Pro Arg Thr Arg Val Lys Arg Leu Leu Ser Met
 2465 2470 2475 2480
 Trp Ser Pro Asp Ala Val Gly Ala Thr Cys Asp Thr Val Cys Phe Asp
 2485 2490 2495
 Ser Thr Ile Thr Pro Glu Asp Ile Met Val Glu Thr Asp Ile Tyr Ser
 2500 2505 2510
 Ala Ala Lys Leu Ser Asp Gln His Arg Ala Gly Ile His Thr Ile Ala
 2515 2520 2525
 Arg Gln Leu Tyr Ala Gly Gly Pro Met Ile Ala Tyr Asp Gly Arg Glu
 2530 2535 2540
 Ile Gly Tyr Arg Arg Cys Arg Ser Ser Gly Val Tyr Thr Thr Ser Ser
 2545 2550 2555 2560
 Ser Asn Ser Leu Thr Cys Trp Leu Lys Val Asn Ala Ala Ala Glu Gln
 2565 2570 2575
 Ala Gly Met Lys Asn Pro Arg Phe Leu Ile Cys Gly Asp Asp Cys Thr
 2580 2585 2590
 Val Ile Trp Lys Ser Ala Gly Ala Asp Ala Asp Lys Gln Ala Met Arg
 2595 2600 2605
 Val Phe Ala Ser Trp Met Lys Val Met Gly Ala Pro Gln Asp Cys Val
 2610 2615 2620
 Pro Gln Pro Lys Tyr Ser Leu Glu Glu Leu Thr Ser Cys Ser Ser Asn
 2625 2630 2635 2640
 Val Thr Ser Gly Ile Thr Lys Ser Gly Lys Pro Tyr Tyr Phe Leu Thr
 2645 2650 2655
 Arg Asp Pro Arg Ile Pro Leu Gly Arg Cys Ser Ala Glu Gly Leu Gly
 2660 2665 2670
 Tyr Asn Pro Ser Ala Ala Trp Ile Gly Tyr Leu Ile His His Tyr Pro
 2675 2680 2685
 Cys Leu Trp Val Ser Arg Val Leu Ala Val His Phe Met Glu Gln Met
 2690 2695 2700
 Leu Phe Glu Asp Lys Leu Pro Glu Thr Val Thr Phe Asp Trp Tyr Gly
 2705 2710 2715 2720
 Lys Asn Tyr Thr Val Pro Val Glu Asp Leu Pro Ser Ile Ile Ala Gly
 2725 2730 2735
 Val His Gly Ile Glu Ala Phe Ser Val Val Arg Tyr Thr Asn Ala Glu
 2740 2745 2750
 Ile Leu Arg Val Ser Gln Ser Leu Thr Asp Met Thr Met Pro Pro Leu
 2755 2760 2765
 Arg Ala Trp Arg Lys Lys Ala Arg Ala Val Leu Ala Ser Ala Lys Arg
 2770 2775 2780
 Arg Gly Gly Ala His Ala Lys Leu Ala Arg Phe Leu Leu Trp His Ala
 2785 2790 2795 2800
 Thr Ser Arg Pro Leu Pro Asp Leu Asp Lys Thr Ser Val Ala Arg Tyr
 2805 2810 2815
 Thr Thr Phe Asn Tyr Cys Asp Val Tyr Ser Pro Glu Gly Asp Val Phe
 2820 2825 2830
 Val Thr Pro Gln Arg Arg Leu Gln Lys Phe Leu Val Lys Tyr Leu Ala
 2835 2840 2845
 Val Ile Val Phe Ala Leu Gly Leu Ile Ala Val Gly Leu Ala Ile Ser
 2850 2855 2860

<210> 4
 <211> 35
 <212> DNA
 <213> Artificial Sequence

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<220>
<223> Partial GBV-B Replicon Sequence

<400> 4
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<210> 5
<211> 56
<212> DNA
<213> Artificial Sequence

<220>
<223> Partial GBV-B Replicon Sequence

<400> 5
gaccgtagca catgcctggt atttctactc aaacagggcg cgccatgatt gaacaa 56

<210> 6
<211> 74
<212> DNA
<213> Artificial Sequence

<220>
<223> Partial GBV-B Replicon Sequence

<400> 6
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ccatgattga acaa 74

<210> 7
<211> 98
<212> DNA
<213> Artificial Sequence

<220>
<223> Partial GBV-B Replicon Sequence

<400> 7
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gcaagaacaa gcagacgggg cgcgccatga ttgaacaa 98

<210> 8
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Partial GBV-B Replicon Sequence

<400> 8
Met Gly Arg Ala Met Ile Glu Gln
1 5

<210> 9

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<211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Partial GBV-B Replicon Sequence

<400> 9
 Met Pro Val Ile Ser Thr Gln Thr Gly Arg Ala Met Ile Glu Gln
 1 5 10 15

<210> 10
 <211> 21
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Partial GBV-B Replicon Sequence

<400> 10
 Met Pro Val Ile Ser Thr Gln Thr Ser Pro Val Pro Ala Pro Gly Arg
 1 5 10 15
 Ala Met Ile Glu Gln
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<210> 11
 <211> 29
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Partial GBV-B Replicon Sequence

<400> 11
 Met Pro Val Ile Ser Thr Gln Thr Ser Pro Val Pro Ala Pro Arg Thr
 1 5 10 15
 Arg Lys Asn Lys Gln Thr Gly Arg Ala Met Ile Glu Gln
 20 25

<210> 12
 <211> 291
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Partial HCV Replicon Sequence

<221> MOD_RES
 <222> (29)...(29)
 <223> Xaa = Glu or Gly

<221> MOD_RES
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 <223> Xaa = Thr or Ile

<221> MOD_RES
 <222> (124)...(124)
 <223> Xaa = Asp, Gly, His, or Asn

<221> MOD_RES
 <222> (136)...(136)
 <223> Xaa = Arg or Gly

<221> MOD_RES
 <222> (142)...(142)
 <223> Xaa = Pro or Ser

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 <222> (143)...(143)
 <223> Xaa = Pro or Cys

<221> MOD_RES
 <222> (146)...(146)
 <223> Xaa = Ala, Asp, Ser, or Thr

<221> MOD_RES
 <222> (151)...(151)
 <223> Xaa = Ser, Ile, or Arg

<221> MOD_RES
 <222> (245)...(245)
 <223> Xaa = Arg or Gly

<400> 12

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Ala	Lys	Ala	Val	Asp	Phe	Val	Pro	Val	Glu	Ser	Met	Xaa	Thr	Thr	Met
			20					25					30		
Arg	Ser	Pro	Val	Phe	Thr	Asp	Asn	Ser	Ser	Pro	Pro	Ala	Val	Pro	Gln
			35				40					45			
Thr	Phe	Gln	Val	Ala	His	Leu	His	Ala	Pro	Thr	Gly	Ser	Gly	Lys	Ser
	50					55					60				
Thr	Lys	Val	Pro	Ala	Ala	Tyr	Ala	Ala	Gln	Gly	Tyr	Lys	Val	Leu	Val
	65				70				75					80	
Leu	Asn	Pro	Ser	Val	Ala	Ala	Thr	Leu	Gly	Phe	Gly	Ala	Tyr	Met	Ser
				85				90						95	
Lys	Ala	His	Gly	Ile	Asp	Pro	Asn	Ile	Arg	Xaa	Gly	Val	Arg	Thr	Ile
			100				105						110		
Thr	Thr	Gly	Ala	Pro	Leu	Thr	Ser	Met	Leu	Thr	Xaa	Pro	Ser	His	Ile
		115				120						125			
Thr	Ala	Glu	Thr	Ala	Lys	Arg	Xaa	Leu	Ala	Arg	Gly	Ser	Xaa	Xaa	Ser
	130				135						140				
Leu	Xaa	Ser	Ser	Ser	Ala	Xaa	Gln	Leu	Ser	Ala	Pro	Ser	Leu	Lys	Ala
	145				150				155					160	
Thr	Cys	Thr	Thr	Arg	His	Asp	Ser	Pro	Asp	Ala	Asp	Leu	Ile	Glu	Ala
				165				170						175	
Asn	Leu	Leu	Trp	Arg	Gln	Glu	Met	Gly	Gly	Asn	Ile	Thr	Arg	Val	Glu
			180				185						190		
Ser	Glu	Asn	Lys	Val	Val	Ile	Leu	Asp	Ser	Phe	Glu	Pro	Leu	Gln	Ala
		195					200					205			

Glu	Glu	Asp	Glu	Arg	Glu	Val	Ser	Val	Pro	Ala	Glu	Ile	Leu	Arg	Arg
210						215					220				
Ser	Arg	Lys	Phe	Pro	Arg	Ala	Tyr	Ser	Ile	Glu	Pro	Leu	Asp	Leu	Pro
225					230					235					240
Gln	Ile	Ile	Gln	Xaa	Leu	His	Gly	Leu	Ser	Ala	Phe	Ser	Leu	His	Ser
				245					250					255	
Tyr	Ser	Pro	Gly	Glu	Ile	Asn	Arg	Val	Ala	Ser	Cys	Leu	Arg	Lys	Leu
			260					265					270		
Gly	Val	Pro	Pro	Leu	Arg	Val	Trp	Arg	His	Arg	Ala	Arg	Ser	Val	Arg
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Ala	Arg	Leu													
290															

<210> 13
 <211> 270
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Partial GBV-B Replicon Sequence

Gly	His	Val	Ile	Gly	Met	Phe	Thr	Ala	Ala	Arg	Asn	Ser	Gly	Gly	Ser
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Val	Ser	Gln	Ile	Arg	Val	Arg	Pro	Leu	Val	Cys	Ala	Gly	Tyr	His	Pro
			20				25						30		
Gln	Tyr	Thr	Ala	His	Ala	Thr	Leu	Asp	Thr	Lys	Pro	Thr	Val	Pro	Asn
		35					40					45			
Glu	Tyr	Ser	Val	Gln	Ile	Leu	Ile	Ala	Pro	Thr	Gly	Ser	Gly	Lys	Ser
		50				55					60				
Thr	Lys	Leu	Pro	Leu	Ser	Tyr	Met	Gln	Glu	Lys	Tyr	Glu	Val	Leu	Val
65					70					75				80	
Leu	Asn	Pro	Ser	Val	Ala	Thr	Thr	Ala	Ser	Met	Pro	Lys	Tyr	Met	His
				85					90					95	
Ala	Thr	Tyr	Gly	Val	Asn	Pro	Asn	Cys	Tyr	Phe	Asn	Gly	Lys	Cys	Thr
			100					105					110		
Asn	Thr	Gly	Ala	Ser	Lys	Thr	Val	Lys	Leu	Pro	Phe	Arg	Val	Asp	Gly
		115					120					125			
His	Thr	Pro	Gly	Val	Arg	Met	Gln	Leu	Asn	Leu	Arg	Asp	Ala	Leu	Glu
		130				135					140				
Thr	Asn	Asp	Cys	Asn	Ser	Thr	Asn	Asn	Thr	Pro	Ser	Asp	Glu	Ala	Ala
145					150					155				160	
Val	Ser	Ala	Leu	Val	Phe	Lys	Gln	Glu	Leu	Arg	Arg	Thr	Asn	Gln	Leu
				165					170					175	
Leu	Glu	Ala	Ile	Ser	Ala	Gly	Val	Asp	Thr	Thr	Lys	Leu	Pro	Ala	Pro
			180					185					190		
Ser	Ile	Glu	Glu	Val	Val	Val	Arg	Lys	Arg	Gln	Phe	Arg	Ala	Arg	Thr
		195					200					205			
Gly	Ser	Tyr	Thr	Val	Pro	Val	Glu	Asp	Leu	Pro	Ser	Ile	Ile	Ala	Gly
		210				215					220				
Val	His	Gly	Ile	Glu	Ala	Phe	Ser	Val	Val	Arg	Tyr	Thr	Asn	Ala	Glu
225					230					235				240	
Ile	Leu	Arg	Val	Ser	Gln	Ser	Leu	Thr	Asp	Met	Thr	Met	Pro	Pro	Leu
				245					250					255	

Arg Ala Trp Arg Lys Lys Ala Arg Ala Val Leu Ala Ser Ala
 260 265 270

<210> 14
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Oligonucleotide Primer

<400> 14
 gtaggcggcg ggactcat 18

<210> 15
 <211> 19
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Oligonucleotide Primer

<400> 15
 tcagggccat ccaagtcaa 19

<210> 16
 <211> 22
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Oligonucleotide Probe

<400> 16
 tcgcgtgatg acaagcgcca ag 22

<210> 17
 <211> 19
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Oligonucleotide Primer

<400> 17
 gatggattgc acgcagggtt 19

<210> 18
 <211> 21
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Oligonucleotide Primer

<400> 18
cccagtcata gccgaatagc c

21

<210> 19
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide Probe

<400> 19
tccggccgct tgggtggag

19